STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0000019
Owner:	City of Kirkwood
Address:	139 South Kirkwood Road, Kirkwood, MO 63122
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Kirkwood Water Treatment Plant
Address:	2020 Marshall Road, Kirkwood, MO 63122
Legal Description:	SW ¼, SW ¼, SE ¼, Sec. 10, T44N, R5E, St. Louis County
Receiving Stream:	Meramec River (P)
First Classified Stream and ID:	Meramec River (P)(02183)
USGS Basin & Sub-watershed No.:	(07140102-080003)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 – Industrial - SIC #4941
Drinking water treatment/lime sludge holding basins/sludge is land applied.
Design population equivalent is .
Design flow is 500,000 gallons per day.
Actual flow is 165,000 gallons per day.
Outfall #002 – Industrial - SIC #4941
Sludge holding basin/estimated volume of basin is 3,200 cubic yards.
No discharge anticipated
Outfall #003 – Industrial - SIC #4941
Filter backwash/83,000 gallons per day is recycled to head of plant.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

April 4, 2003
Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

April 3, 2008
Expiration Date

Jim Hull, Director of Staff, Clean Water Commission

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #001, #002 & #003						
Flow	MGD	*		*	once/month	24 hr. total
Settleable Solids	mL/L/hr	1.0		1.0	twice/year**	grab
pH – Units	SU	***		***	twice/year**	grab

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2003. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.
** Sample twice per year in the months of April & October.
*** pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

C. SPECIAL CONDITIONS (continued)

3. Report as no-discharge when a discharge does not occur during the report period.

4. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
   (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
   (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
   (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
   (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
   (e) There shall be no significant human health hazard from incidental contact with the water;
   (f) There shall be no acute toxicity to livestock or wildlife watering;
   (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
   (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

5. Land Application of Water Treatment Sludge.
   (a) Lime sludge that is land applied shall be tested at least once per year for Effective Neutralizing Material (ENM) per MU Guide G9102. Liming Missouri Soils, published by the University of Missouri Extension Service, and G9102, Missouri Limestone Quality: What is ENM?
   (b) Soil tests shall be conducted at least once per year before sludge application, during each year when water treatment plant sludge is to be land applied.
   (c) Land application of sludge shall not exceed the rate needed to provide the amount of ENM recommended by a current soil test. Sludge tests and soil tests shall be maintained by the permittee for at least five years. Lime sludge shall not be land applied if the soil pH exceeds 7.5 (salt based test).
   (d) Land application of sludges containing aluminum additives (alum sludge, lime/alum sludge, etc.) shall meet the following requirements:

      (1) During years that sludge is land applied, sludge and soil must be tested once per year for total aluminum concentration on a dry weight basis and for soil pH.
      (2) Land application sites shall be maintained at a soil pH between pH 6.0 to 7.5 based on the salt based pH test or 6.5 to 8.0 for water based test.
      (3) Land application of sludge shall not exceed cumulative aluminum loadings of 4,000 pounds aluminum per acre.
      (4) Permittees do not need to keep records of cumulative aluminum loading, if the sludge contains less then 40,000 ppm total aluminum on a dry weight basis and sludge application rates do not exceed 2 dry tons per acre per year (320 cubic feet/acre at 20% solids content).
      (5) Sludge that contains more than 40,000 ppm total aluminum on a dry weight basis shall be incorporated into the soil by discing, plowing, or equivalent methods with two week after land application.

   (e) The department may require the submittal of a site-specific sludge management plan where deemed appropriate to protect the environment.

C. SPECIAL CONDITIONS (continued)

5. Land Application of Water Treatment Sludge (continued)

(f) An annual report shall be submitted by the date shown on page 2. If there is no discharge of wastewater during the year, the annual report shall state “no discharge.” The annual report shall also contain a summary of sludge disposal activities, including amount of sludge generated, amount stored, amount disposed, and disposal method. If sludge is land applied, indicate the number of acres used, the application rate in dry tons/acre, the soil pH, and the pounds of EMN per ton of sludge. If sludge containing aluminum is land applied, also indicate the aluminum concentration in sludge and soil in ppm dry weight for each field, including the background soil concentration of aluminum.